

In the Claims:

Please cancel claims 1-36 without prejudice to continued prosecution. Please add new claims 37-79.

1-36 (Canceled)

37. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 28 primers to produce a gene 28 amplification product if a VZV gene 28 nucleic acid molecule is present in said sample, wherein said pair of gene 28 primers comprises a first gene 28 primer and a second gene 28 primer, wherein said first gene 28 primer comprises the sequence 5'-GAC AAT ATC ATA TAC ATG GAA TGT G-3' (SEQ ID NO:1), wherein said hybridizing step comprises contacting said sample with a pair of gene 28 probes, wherein the members of said pair of gene 28 probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first gene 28 probe of said pair of gene 28 probes is labeled with a donor fluorescent moiety and wherein a second gene 28 probe of said pair of gene 28 probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 28 probe and said acceptor fluorescent moiety of said second gene 28 probe,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

38. (New) The method of claim 37, wherein said second gene 28 primer comprises the sequence 5'- GCG GTA GTA ACA GAG AAT TTC TT-3' (SEQ ID NO:2).

39. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 28 primers to produce a gene 28 amplification product if a VZV gene

28 nucleic acid molecule is present in said sample, wherein said pair of gene 28 primers comprises a first gene 28 primer and a second gene 28 primer, wherein said second gene 28 primer comprises the sequence 5'- GCG GTA GTA ACA GAG AAT TTC TT -3' (SEQ ID NO:2), wherein said hybridizing step comprises contacting said sample with a pair of gene 28 probes, wherein the members of said pair of gene 28 probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first gene 28 probe of said pair of gene 28 probes is labeled with a donor fluorescent moiety and wherein a second gene 28 probe of said pair of gene 28 probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 28 probe and said acceptor fluorescent moiety of said second gene 28 probe,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

40. (New) The method of claim 39, wherein said first gene 28 primer comprises the sequence 5'- GAC AAT ATC ATA TAC ATG GAA TGT G-3' (SEQ ID NO:1).

41. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 28 primers to produce a gene 28 amplification product if a VZV gene 28 nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of gene 28 probes, wherein the members of said pair of gene 28 probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first gene 28 probe of said pair of gene 28 probes is labeled with a donor fluorescent moiety and wherein a second gene 28 probe of said pair of gene 28 probes is labeled with a corresponding acceptor fluorescent moiety, wherein said first gene 28 probe comprises the sequence 5'- CGA AAA TCC AGA ATC GGA ACT TCT T -3' (SEQ ID NO:3); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 28 probe and said acceptor fluorescent moiety of said second gene 28 probe,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

42. (New) The method of claim 41, wherein said second gene 28 probe comprises the sequence 5'- CCA TTA CAG TAA ACT TTA GGC GGT C -3' (SEQ ID NO:4).

43. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 28 primers to produce a gene 28 amplification product if a VZV gene 28 nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of gene 28 probes, wherein the members of said pair of gene 28 probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first gene 28 probe of said pair of gene 28 probes is labeled with a donor fluorescent moiety and wherein a second gene 28 probe of said pair of gene 28 probes is labeled with a corresponding acceptor fluorescent moiety, wherein said second gene 28 probe comprises the sequence 5'- CCA TTA CAG TAA ACT TTA GGC GGT C -3' (SEQ ID NO:4); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 28 probe and said acceptor fluorescent moiety of said second gene 28 probe,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

44. (New) The method of claim 43, wherein said first gene 28 probe comprises the sequence 5'- CGA AAA TCC AGA ATC GGA ACT TCT T -3' (SEQ ID NO:3).

45. (New) The method of claim 37, 39, 41, or 43, wherein the presence of said FRET within 50 cycling steps is indicative of the presence of a VZV infection in said individual.

46. (New) The method of claim 37, 39, 41, or 43, wherein the presence of said FRET within 40 cycling steps is indicative of the presence of a VZV infection in said individual.

47. (New) The method of claim 37, 39, 41, or 43, wherein the presence of said FRET within 30 cycling steps is indicative of the presence of a VZV infection in said individual.

48. (New) The method of claim 37, 39, 41, or 43, wherein said cycling step is performed on a control sample.

49. (New) The method of claim 48, wherein said control sample comprises said VZV gene 28 nucleic acid molecule.

50. (New) The method of claim 37, 39, 41, or 43, wherein said cycling step uses a pair of control primers and a pair of control probes, wherein said control primers and said control probes are other than said gene 28 primers and said gene 28 probes, wherein a control amplification product is produced if control template is present in said sample, wherein said control probes hybridize to said control amplification product.

51. (New) The method of claim 37, 39, 41, or 43 further comprising:
performing at least one cycling step, wherein said cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 29 primers to produce a gene 29 amplification product if a VZV gene 29 nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of gene 29 probes, wherein the members of said pair of gene 29 probes hybridize within no more than five nucleotides of each other, wherein a first gene 29 probe of said pair of gene 29 probes is labeled with a donor fluorescent moiety and wherein a second gene 29 probe of said pair of gene 29 probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of FRET between said donor fluorescent moiety of said first gene 29 probe and said acceptor fluorescent moiety of said second gene 29 probe upon hybridization of said pair of gene 29 probes to said targets.

52. (New) The method of claim 51, wherein said pair of gene 29 primers comprises a first gene 29 primer and a second gene 29 primer, wherein said first gene 29 primer comprises the sequence 5'- TGT CCT AGA GGA GGT TTT ATC TG -3' (SEQ ID NO:5), and wherein

said second gene 29 primer comprises the sequence 5'- CAT CGT CTG TAA GAC TTA ACC AG -3' (SEQ ID NO:6).

53. (New) The method of claim 51, wherein said first gene 29 probe comprises the sequence 5'- GGG AAA TCG AGA AAC CAC CCT ATC CGA C - 3' (SEQ ID NO:7), and wherein said second gene 29 probe comprises the sequence 5'- AAG TTC GCG GTA TAA TTG TCA GTG GCG - 3' (SEQ ID NO:8).

54. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 29 primers to produce a gene 29 amplification product if a VZV gene 29 nucleic acid molecule is present in said sample, wherein said pair of gene 29 primers comprises a first gene 29 primer and a second gene 29 primer, wherein said first gene 29 primer comprises the sequence 5'- TGT CCT AGA GGA GGT TTT ATC TG -3' (SEQ ID NO:5), wherein said hybridizing step comprises contacting said sample with a pair of gene 29 probes, wherein the members of said pair of gene 29 probes hybridize within no more than five nucleotides of each other, wherein a first gene 29 probe of said pair of gene 29 probes is labeled with a donor fluorescent moiety and wherein a second gene 29 probe of said pair of gene 29 probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 29 probe and said acceptor fluorescent moiety of said second gene 29 probe upon hybridization of said pair of gene 29 probes to said targets,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

55. (New) The method of claim 54, wherein said second gene 29 primer comprises the sequence 5'- CAT CGT CTG TAA GAC TTA ACC AG -3' (SEQ ID NO:6).

56. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 29 primers to produce a gene 29 amplification product if a VZV gene 29 nucleic acid molecule is present in said sample, wherein said pair of gene 29 primers comprises a first gene 29 primer and a second gene 29 primer, wherein said second gene 29 primer comprises the sequence 5'- CAT CGT CTG TAA GAC TTA ACC AG -3' (SEQ ID NO:6), wherein said hybridizing step comprises contacting said sample with a pair of gene 29 probes, wherein the members of said pair of gene 29 probes hybridize within no more than five nucleotides of each other, wherein a first gene 29 probe of said pair of gene 29 probes is labeled with a donor fluorescent moiety and wherein a second gene 29 probe of said pair of gene 29 probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 29 probe and said acceptor fluorescent moiety of said second gene 29 probe upon hybridization of said pair of gene 29 probes to said targets,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

57. (New) The method of claim 56, wherein said first gene 29 primer comprises the sequence 5'- TGT CCT AGA GGA GGT TTT ATC TG -3' (SEQ ID NO:5).

58. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 29 primers to produce a gene 29 amplification product if a VZV gene 29 nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of gene 29 probes, wherein the members of said pair of gene 29 probes hybridize within no more than five nucleotides of each other, wherein a first gene 29 probe of said pair of gene 29 probes is labeled with a donor fluorescent moiety and wherein a second gene 29 probe of said pair of gene 29 probes is labeled with a corresponding acceptor

fluorescent moiety, wherein said first gene 29 probe comprises the sequence 5'- GGG AAA TCG AGA AAC CAC CCT ATC CGA C -3' (SEQ ID NO:7); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 29 probe and said acceptor fluorescent moiety of said second gene 29 probe upon hybridization of said pair of gene 29 probes to said targets,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

59. (New) The method of claim 58, wherein said second gene 29 probe comprises the sequence 5'- AAG TTC GCG GTA TAA TTG TCA GTG GCG -3' (SEQ ID NO:8).

60. (New) A method for detecting the presence or absence of VZV in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of gene 29 primers to produce a gene 29 amplification product if a VZV gene 29 nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of gene 29 probes, wherein the members of said pair of gene 29 probes hybridize within no more than five nucleotides of each other, wherein a first gene 29 probe of said pair of gene 29 probes is labeled with a donor fluorescent moiety and wherein a second gene 29 probe of said pair of gene 29 probes is labeled with a corresponding acceptor fluorescent moiety, wherein said second gene 29 probe comprises the sequence 5'- AAG TTC GCG GTA TAA TTG TCA GTG GCG -3' (SEQ ID NO:8); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first gene 29 probe and said acceptor fluorescent moiety of said second gene 29 probe upon hybridization of said pair of gene 29 probes to said targets,

wherein the presence of FRET is indicative of the presence of VZV in said biological sample, and wherein the absence of FRET is indicative of the absence of VZV in said biological sample.

61. (New) The method of claim 60, wherein said first gene 29 probe comprises the sequence 5'- GGG AAA TCG AGA AAC CAC CCT ATC CGA C - 3' (SEQ ID NO:7).

62. (New) The method of claim 54, 56, 58, or 60, wherein the presence of said FRET within 50 cycling steps is indicative of the presence of a VZV infection in said individual.

63. (New) The method of claim 54, 56, 58, or 60, wherein the presence of said FRET within 40 cycling steps is indicative of the presence of a VZV infection in said individual.

64. (New) The method of claim 54, 56, 58, or 60, wherein the presence of said FRET within 30 cycling steps is indicative of the presence of a VZV infection in said individual.

65. (New) The method of claim 54, 56, 58, or 60, wherein said cycling step is performed on a control sample.

66. (New) The method of claim 65, wherein said control sample comprises said VZV gene 29 nucleic acid molecule.

67. (New) The method of claim 54, 56, 58, or 60, wherein said cycling step uses a pair of control primers and a pair of control probes, wherein said control primers and said control probes are other than said gene 29 primers and said gene 29 probes, wherein a control amplification product is produced if control template is present in said sample, wherein said control probes hybridize to said control amplification product.

68. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein the members of said pair of probes hybridize within no more than two nucleotides of each other.

69. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein the members of said pair of probes hybridize within no more than one nucleotide of each other.

70. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein said donor fluorescent moiety is fluorescein.

71. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein said detecting step comprises exciting said biological sample at a wavelength absorbed by said donor fluorescent moiety and visualizing and/or measuring the wavelength emitted by said acceptor fluorescent moiety.

72. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein said detecting comprises quantitating said FRET.

73. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein said detecting step is performed after each cycling step.

74. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein said detecting step is performed in real time.

75. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, further comprising determining the melting temperature between one or both of said probe(s) and said amplification product, wherein said melting temperature confirms said presence or said absence of said VZV or VZV.

76. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, further comprising preventing amplification of a contaminant nucleic acid.

77. (New) The method of claim 76, wherein said preventing comprises performing said amplifying step in the presence of uracil.

78. (New) The method of claim 77, wherein said preventing further comprises treating said biological sample with uracil-DNA glycosylase prior to a first amplification step.

79. (New) The method of claim 37, 39, 41, 43, 54, 56, 58, or 60, wherein said biological sample is selected from the group consisting of dermal swabs, cerebrospinal fluid, ganglionic tissue, brain tissue, ocular fluid, blood, sputum, bronchio-alveolar lavage, bronchial aspirates, lung tissue, and urine.